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09/894,016	06/28/2001	Jeffrey Scott Chase	RSW9-2001-0045-US1	4982

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IBM CORPORATION (SYL-RSW) C/O SYNNESTVEDT & LECHNER LLP 1101 MARKET STREET, SUITE 2600 PHILADELPHIA, PA 19107	EXAMINER
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

MAILED

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Technology Center 2100

Application Number: 09/894,016
Filing Date: June 28, 2001
Appellant(s): CHASE ET AL.

John R. Brancolini, Reg. No. 57,218
<u>For Appellant</u>

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 13, 2006 appealing from the Office action

mailed October 5, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Applicant's Admitted Prior Art in the specification.

6,006,264	Colby et al.	12-1999 .
6,240,461	Cielsak	05-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (hereinafter referred to as "AAPR") in view of USPN 6,006,264 issued to Colby et al. (hereinafter referred to as "Colby").

In the specification Applicant admitted that the following teaching are prior art:

Server switch (Page 2, lines 2-6);

Hashing switch is prior art (fig.1, Page 3-Page 4);

Content Based Routing "CBR" (Page 2, lines 7-15);

Domain name associated with IP address (Page 3, lines 2-5);

Switching for balancing load among server farm (Fig. 1, Page 3, lines 16-22);

Hashing switch (figure 1: 114) coupled between the network connection (figure 1: 112) and server farm (116);

URL hashing switch (Page 4, lines Fig. 1, Page 4, lines 1-14); and

Balancing load among server farm or back-end server by using front-end processor (Page 4, lines 15-23).

Further, in light of the specification, the term 'hashing' referred to any form of routing based on content included CBR (Page 2, lines 7-15). Caching/hashing switch is referred to a device or devices, which could be a single unit or separate units, but are capable of performing both caching and switching functions (specification page 7, lines 8-10 (16)).

Regarding claims 1 and 9, as aforementioned above applicant admitted most of the elements in the claims were prior art in the exception of the caching, which in light of specification, a convention hashing switch- coupled between a network connection and a server farm, is associated with cache for storing the requested content and passing the stored content to a requestor if the cache had the requested content, stored therein. Nevertheless, the caching and redirecting conceptual is not novelty. They have been utilized in various cache-routing based, prior the applicant invention was made. For instance, Colby teaches an inventive concept of Content-Aware Flow Switch (CFS), which is at a front-end coupled between clients and servers, which inter alia, includes a concept, which could be easily adopted to and modified the convention hashing switch to provide caching function, as claimed.

Colby, further disclosed, the CFS included a Content Server Database (CSD) for identifying whether the requested content is at locality before performing switching function, e.g., redirecting, the request to a remote server (Fig. 3, and corresponding details). Furthermore,

Colby suggested the CFS having advantages of balancing workload for servers farm, i.e., load

balancing, and having a capability to identifier front-end resources, i.e., identifier locality

content, for Quality of Service (QOS) improvement (Col. 3, lines 36-52). Thus, it would have

been obvious to one of ordinary skilled in the art at the time of the invention was made to modify

a conventional hashing switch by incorporating caching mechanisms, such as local server, and

the notion of checking local content before sending the request to a server in the servers farms.

In order to balance load of the servers as suggested by Colby, with the motivation of improving

QUALITY OF SERVICE as suggested in Colby. By this rationale claims 1 and 9 are rejected.

Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the

combination of AAPA and Colby as applied to claims 1 and 9, above, and in view of Cielsak

(US. 6,240,461).

Regarding claims 2-8, AAPA-Colby disclose the invention substantially as claimed, as

described in claim 1, but they do not explicitly disclose hashing an unfound content received

from a remote server into the cache. However, the hashing content technique for hashing content

from a server into a cache or local server storage is also not new idea. Such technique was being

used to improve network traffic, web content provider efficiency, long before the applicant

invention was made. For this instance, Cielsak discloses a method and apparatus for improving

network data traffic, which is capable of determining whether a requested object is in cache of

course, it also determines whether the requested object is in a local or any specific servers. If the

object were not in at the specific cache location, it would make a request for the object to store in

the cache or locality, i.e., updating cache, and then forward the content to the client who

requested the content, respectively (see Cielsak, Fig. 2, 216-224). Thus, it would have been

obvious to one of ordinary skilled in the art at the time of the invention was made to incorporate

Cielsak's technique of updating locality or cache objects, with the motivation of minimizing

network traffic to improve quality of service, as suggested by Cielsak (Col. 1, line 10-Col. 2,

line 3). By this rationale, claims 2-8 are rejected.

(10) Response to Argument

Appellant's arguments have been fully considered but they are not persuasive.

In response to Appellant's argument that AAPA, Colby, and/or Cieslak neither teach nor

suggest a client-cache-switch-server arrangement, the PTO respectfully submits that this is

indeed taught by the combination of AAPA and Colby as cited above. Specifically, figure 1 of

AAPA as well as page 4, lines 1-14 of the specification teaches a hashing switch (figure 1: 114)

is coupled between the network connection (figure 1: 112) and server farm (116).

Colby teaches a Content-Aware Flow Switch (CFS), which coupled between clients and

servers, which further includes a Content Server Database (CSD) for identifying whether the

requested content is at locality before performing switching function, e.g., redirecting, the

request to a remote server (Fig. 3, and corresponding details). This is equivalent to immediately

serving the client if an object is cached. When combined with AAPA, one of ordinary skill in the

art would have recognized that the teaching of Colby can easily adopted to and modified the

convention hashing switch to provide caching function, as claimed.

In response to appellant's argument that Colby does not teach that the CSD functions as a cache for storing previously requested content or does Colby disclose or reasonably suggest providing content to a requesting client directly from the CSD, the PTO respectfully submits that this functionality is taught by AAPA as cited in the rejection. In response to appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related

Appeals and Interferences section of this examiner's answer.

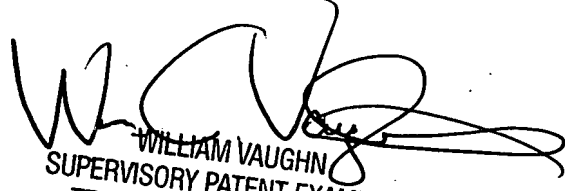For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

ANB

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